Quinto Simposio Anual de Confraternización de la Comunidad del Hospital Naval de Rota

Fifth Annual Host Nation Symposium of the Naval Hospital [illegible]a Communi[illegible]

Complicaciones nasosinusales de las rinitis alérgicas

Sinonasal complications in allergic rhinitis

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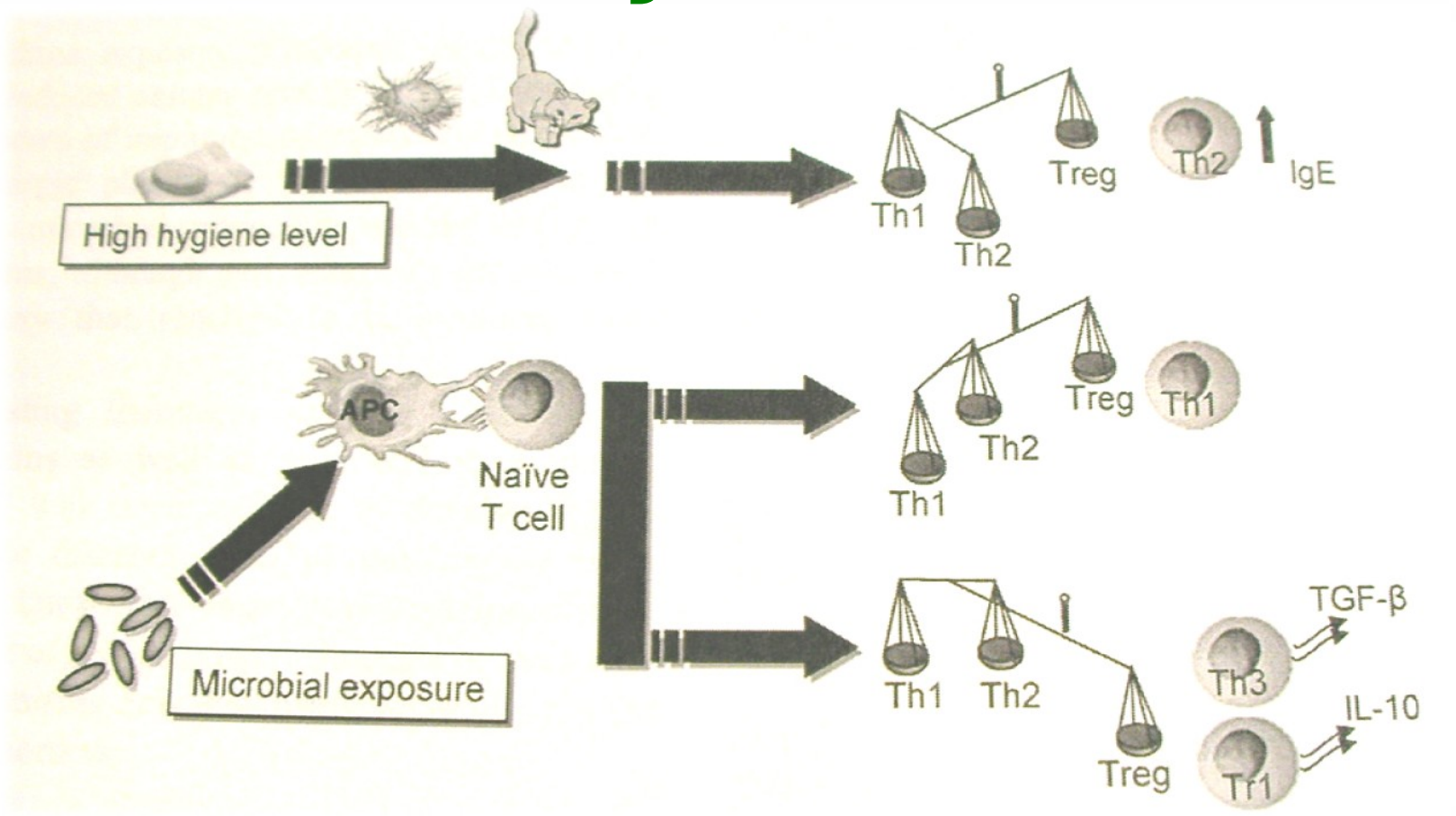
Centro Otorrinolaringológico Astarté

Objetivos

1. Actualizar los conocimientos en cuanto a la relación infecciones y alergia.
2. Puesta al día del manejo diagnóstico y terapéutico de las rinosinusitis aguda.
3. Puesta al día del manejo diagnóstico y terapéutico de la rinosinusitis crónica.
4. Conocer las complicaciones de las rinosinusitis a través de sus signos de alarma.

Hipótesis de la higiene mejorada



Feleszko, W y cols. European Journal of Pharmacology. 2006

Respiratory Research

BioMed Central

Research

Open Access

Pre-natal and post-natal exposure to respiratory infection and atopic diseases development: a historical cohort study

Anne Zutavern*[1,2], Stephanie von Klot[1], Ulrike Gehring[3], Susanne Krauss-Etschmann[4] and Joachim Heinrich[1]

Methods: Historical cohort study: Population level data on acute respiratory infections from the routine reporting system of the former German Democratic Republic were linked with individual data from consecutive surveys on atopic diseases in the same region (n = 4672). Statistical analyses included multivariate logistic regression analysis and polynomial distributed lag models.

Results: High exposure to acute respiratory infection between pregnancy and age one year was associated with overall reduced odds of asthma, eczema, hay fever, atopic sensitization and total IgE. Exposure in the first 9 months of life showed the most pronounced effect. Adjusted odds ratio's for asthma, hay fever, inhalant sensitization and total IgE were statistical significantly reduced up to around half.

Respiratory Research 2006, ***7:81***

Infections in Child Day Care Centers and Later Development of Asthma, Allergic Rhinitis, and Atopic Dermatitis

Prospective Follow-up Survey 12 Years After Controlled Randomized Hygiene Intervention

Teija Dunder, MD; Terhi Tapiainen, MD, PhD; Tytti Pokka, BSc; Matti Uhari, MD, PhD

Design: Prospective follow-up survey with a questionnaire administered 12 years after a controlled randomized hygiene intervention.

Results: Asthma was diagnosed by a physician in 48 of the 481 respondents (10%) from the intervention child day care centers, with markedly fewer infections, and in 46 of the 447 controls (10%) (relative risk, 1.0; 95% confidence interval, 0.7-1.4). Similarly, no differences were found in the numbers of children who had a diagnosis of other atopic diseases or who had reported such symptoms.

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Clinical and Experimental Allergy, **36**, 634–639

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ORIGINAL PAPER

Acute infections, infection pressure, and atopy

M. Paunio*, H. Peltola†, M. Virtanen‡, P. Leinikki§, A. Makela† and O. P. Heinonen*

Department of Health, Ministry of Social Affairs and Health, Helsinki, Finland, †Helsinki University Central Hospital, Hospital for Children and Adolescents, Helsinki, Finland, ‡Department of Hospital Services, c/o The Association of Local and Regional Authorities, Helsinki, Finland and §Department of Infectious Diseases, National Public Health Institute, Helsinki, Finland

Methods Almost all Finns born between 1976 and 1984 and a sample of older teenagers aged up to 19 years ($n = 5\,47\,190$) were vaccinated and questioned to establish clinical history of mumps and rubella and manifestations of atopy (rhinoconjunctivitis, eczema, and asthma) in 1982–1986. A subsample ($n = 37\,733$) including all those subjects who were vaccinated during the first 2 months of the measles, mumps, and rubella (MMR) programme were also queried information about upper respiratory infections (URIs) and infection pressure. Crude and adjusted prevalence ratios of atopy among those with infectious disease history compared with those without it were calculated.

Results The risk of URI and a history of mumps and rubella increased with the number of daily contacts. This association was apparent especially among the youngest subjects with regard to URIs whereas the proportion with histories of mumps and rubella increased with increasing infection pressure more clearly among the 6-year-olds. Atopy was not associated with daily child contacts among pre-schoolers. Children with histories of repeated URIs and MMR diseases had substantially more atopy than those with lower URI or MMR disease rates.

El paradigma Th1/Th2

- Las infecciones pueden cambiar el patrón de inflamación:
  - Fujimura, T., et al., *Conversion of the CD4+ T cell profile from T(H2)-dominant type to T(H1)-dominant type after varicella-zoster virus infection in atopic dermatitis.* J Allergy Clin Immunol, 1997. **100**(2): p. 274-82
  - Tulic, M.K., et al., *Modification of the inflammatory response to allergen challenge after exposure to bacterial lipopolysaccharide.* Am J Respir Cell Mol Biol, 2000. **22**(5): p. 604-12.
- Las enfermedades Th1 también están aumentando.
  - Stene, L.C. and P. Nafstad, *Relation between occurrence of type 1 diabetes and asthma.* Lancet, 2001. **357**(9256): p. 607-8
- La infección Th2 también puede disminuir la reacción alérgica.
  - Hagel, I., et al., *Modulation of the allergic reactivity of slum children by helminthic infection.* Parasite Immunol, 1993. **15**(6): p. 311-5

Infecciones y rinitis alérgica

- Ciprandi, G., M.A. Tosca, and L. Fasce, *Allergic children have more numerous and severe respiratory infections than non-allergic children.* Pediatr Allergy Immunol, 2006. **17**(5)
- Cirillo, I., et al., *Allergic patients have more numerous and prolonged respiratory infections than nonallergic subjects.* Allergy, 2007. **62**(9)

Complicaciones infecciosas más relacionadas con la rinitis alérgica

- Otitis media
  - Bentdal, Y.E., et al., *Acute otitis media in schoolchildren: allergic diseases and skin prick test positivity.* Acta Otolaryngol, 2007. **127**(5)
- Rinosinusitis
  - Savolainen, S., *Allergy in patients with acute maxillary sinusitis.* Allergy, 1989. **44**(2)
  - Kirtsreesakul, V. and S. Ruttanaphol, *The relationship between allergy and rhinosinusitis.* Rhinology, 2008. **46**(3)

Definición clínica de rinosinusitis

"Inflamación de la mucosa nasal y de los senos paranasales caracterizada por dos o mas síntomas, uno de los cuales debe ser:

- Bloqueo, obstrucción, congestión nasal, y/ó
- Descarga nasal o rinorrea (anterior o posterior)

+

- Dolor o presión facial, y/ó
- Hiposmia o anosmia."

Fokkens W et al. Rhinology. 2007 Suppl 20.

EPOS

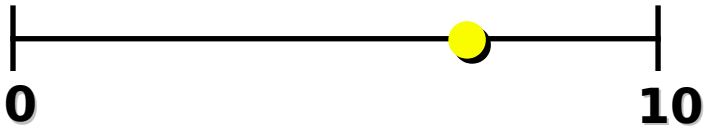
Clasificación Rinosinusitis

1. Duración de la rinosinusitis :

- **aguda:** < 12 semanas
  resolución completa de síntomas
- **crónica:** > 12 semanas
  no resolución completa de síntomas

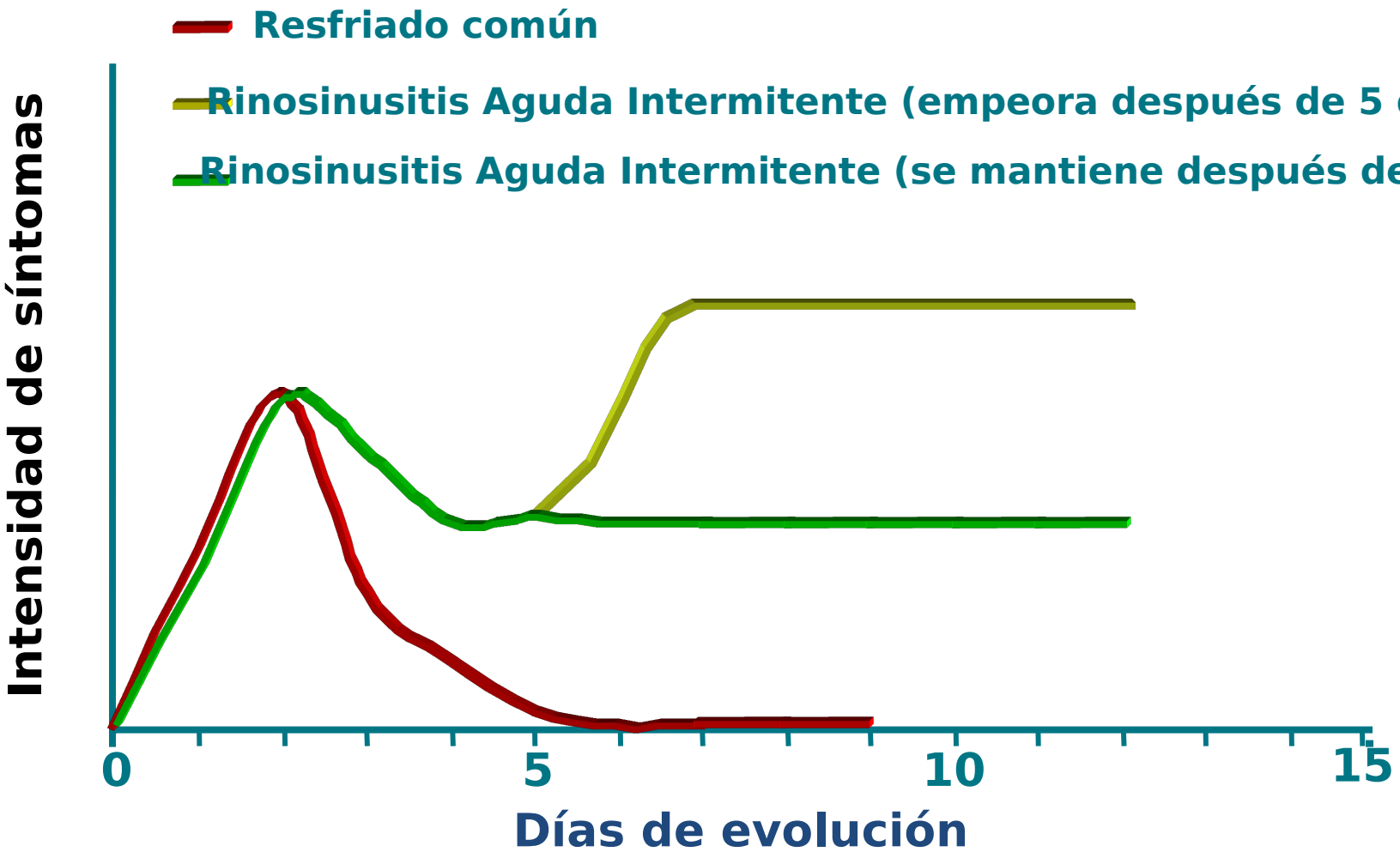
2. Gravedad de la rinosinusitis :

- Leve: Escala visual analógica: 0-3
- Moderada: EVA: 4-7
- Severa: EVA: 7-10



EVA:
basada en el síntoma principal o en el promedio de síntomas principales

Rinosinusitis aguda

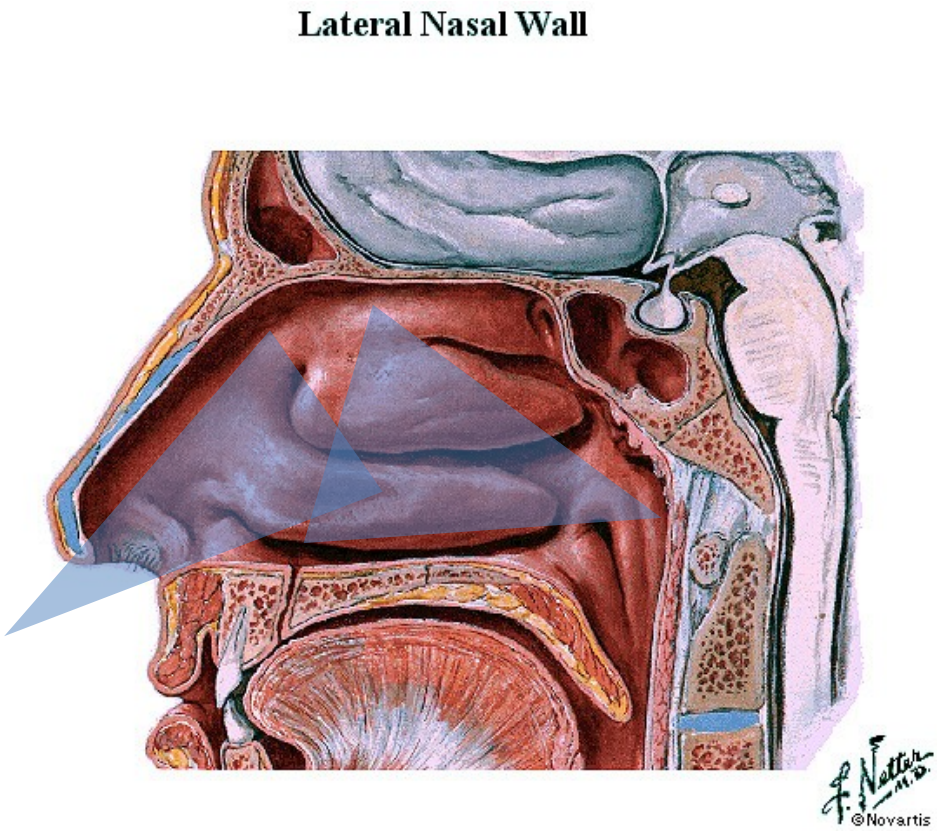


La importancia de exploración nasal

- Rinoscopia anterior
  - Fuente de luz frontal
  - Ambas manos libres
- Signos de alarma:
  - Rinorrea purulenta unilateral+obstrucción.
  - Epistaxis unilateral+obstrucción
  - Rinorrea purulenta bilateral+congestión +signos infecciosos

Límites de la rinoscopia: la endoscopia nasal

- Exploración de 2/3 posteriores de la fosa nasal
- Endoscopia rígida:
  - Mejor campo de visión
  - Más calidad de imagen
  - Mayor ampliación
- Fibroscopia



La endoscopia nasal

- Cola de los cornetes
- Cavum
- Meato medio
- Complejo osteomeatal

No se pueden escapar

- Tumores malignos de fosas nasales:
  - Prevalencia del 2 al 8 por mil (3% VADS)
- Angiofibroma nasofaríngeo juvenil
  - Prevalencia del 1 por diez mil .
- Cuerpo extraño nasal
  - Muy frecuentes en niños y disminuidos psíquicos

Indicación de la Rx en patología nasal

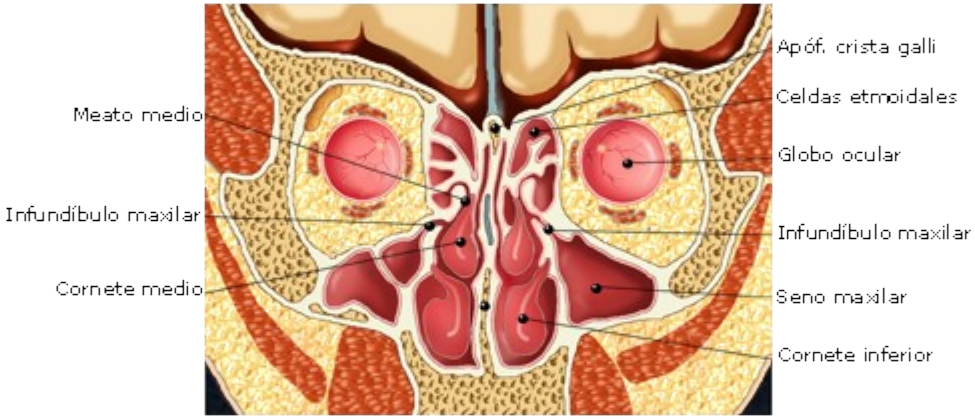
- La neumatización de los senos no comienza a ser visible hasta los 8 años
- La proyección de water es técnicamente difícil de realizar
- Un elevado % de estudios TAC presentan alteraciones sinusales subclínicas (sobre todo en rinitis alérgica)

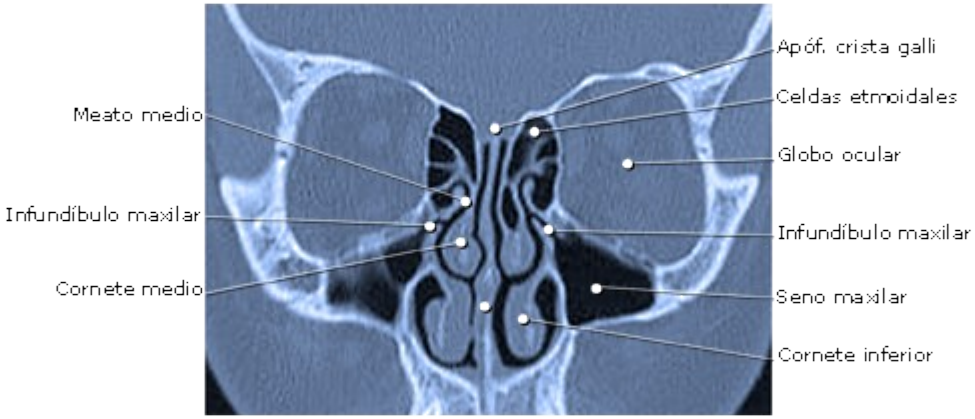
La radiografía de senos es poco útil

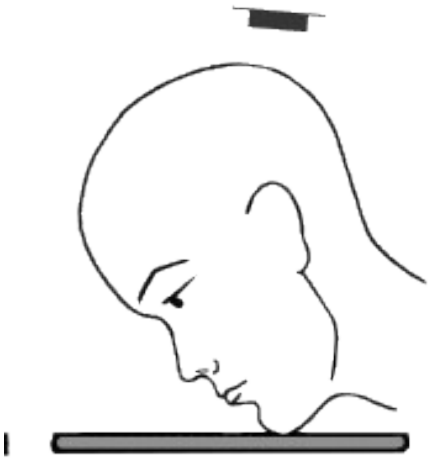
- la radiografía no consigue probabilidades post-test suficientemente altas como para ser realmente útil. Bandolier nº 83, 2001.
- EA Engels, N Terrin, M Barza, J Lau. Meta-analysis of diagnostic tests for acute sinusitis. Journal of Clinical Epidemiology 2000;53:852-862.
- H Varonen, M Mäkelä, S Savolainen, E Läärä, J Hilden. Comparison of ultrasound, radiography, and clinical examination in the diagnosis of acute maxillary sinusitis: a systematic review. Journal of Clinical Epidemiology 2000;53:940-948

Comparación (con la punción de los senos)	Número de estudios	Número de pacientes	Prevalencia ponderada (%, rango)	Razón de probabilidad positiva	Razón de probabilidad negativa
Radiografía	7	996	57 (26-80)	3.4	0.26
Ultrasonidos	7	940	56 (27-80	2.8	0.30
Examen clínico	2	245	46 (44-48)	3.3	0.40

Estudios de imagen: correlación anatomica.

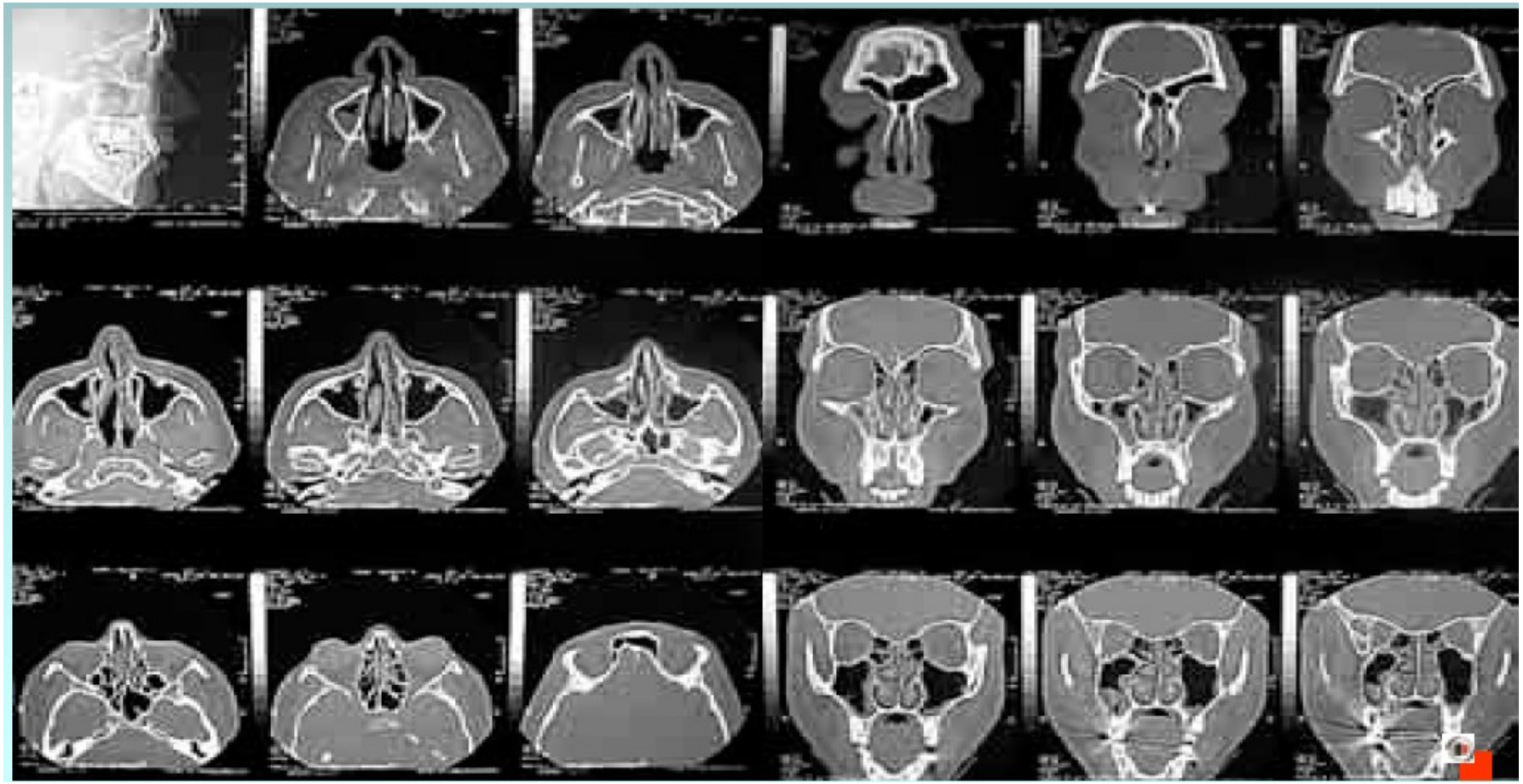


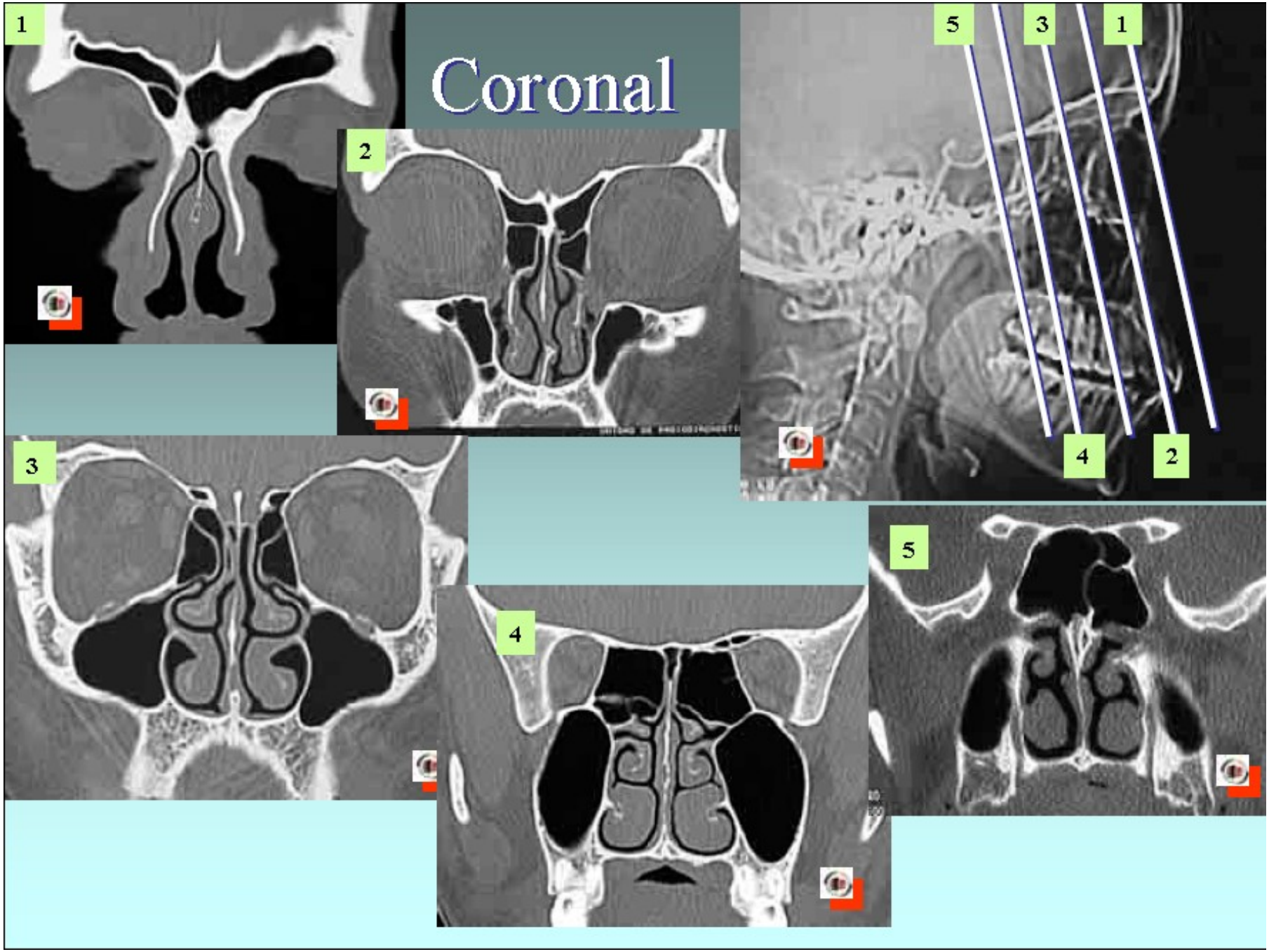




Proyección de Waters

Tomografía computerizada




Coronal
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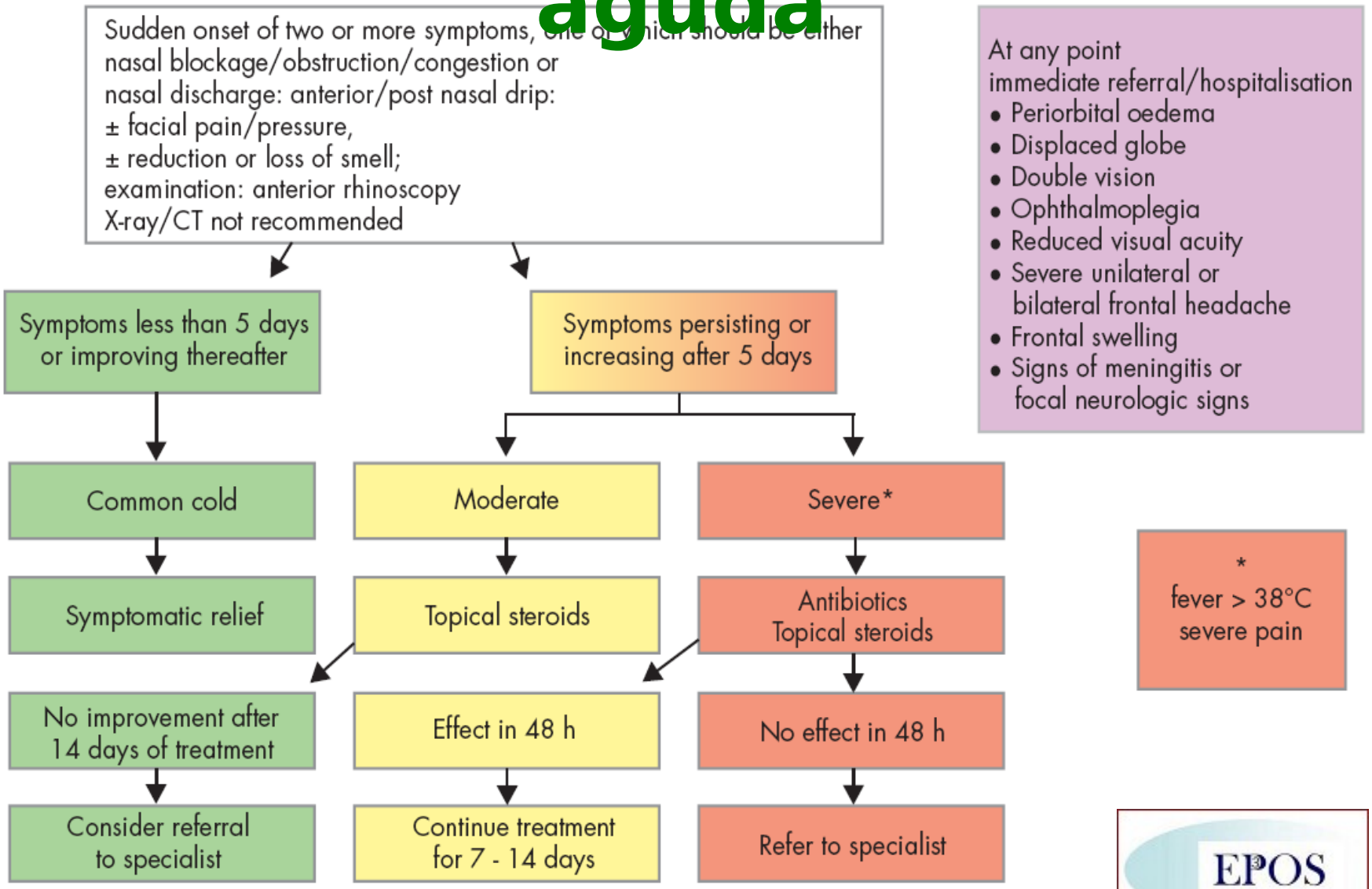
Manejo de la rinosinusitis aguda


Sudden onset of two or more symptoms, one of which should be either
nasal blockage/obstruction/congestion or
nasal discharge: anterior/post nasal drip:
± facial pain/pressure,
± reduction or loss of smell;
examination: anterior rhinoscopy
X-ray/CT not recommended
At any point
immediate referral/hospitalisation
• Periorbital oedema
• Displaced globe
• Double vision
• Ophthalmoplegia
• Reduced visual acuity
• Severe unilateral or bilateral frontal headache
• Frontal swelling
• Signs of meningitis or focal neurologic signs
Symptoms less than 5 days or improving thereafter
Symptoms persisting or increasing after 5 days
Common cold
Moderate
Severe*
Symptomatic relief
Topical steroids
Antibiotics
Topical steroids
* fever > 38°C severe pain
No improvement after 14 days of treatment
Effect in 48 h
No effect in 48 h
Consider referral to specialist
Continue treatment for 7 - 14 days
Refer to specialist
EPOS

Fokkens W et al. Rhinology. 2007 Suppl 20.

Resfriado Común

- Tratamiento sintomático (en cualquier orden):
  - analgésicos
  - lavado nasal
  - descongestionantes nasales (si tópicos, < de 7 días)
  - vahos, ...

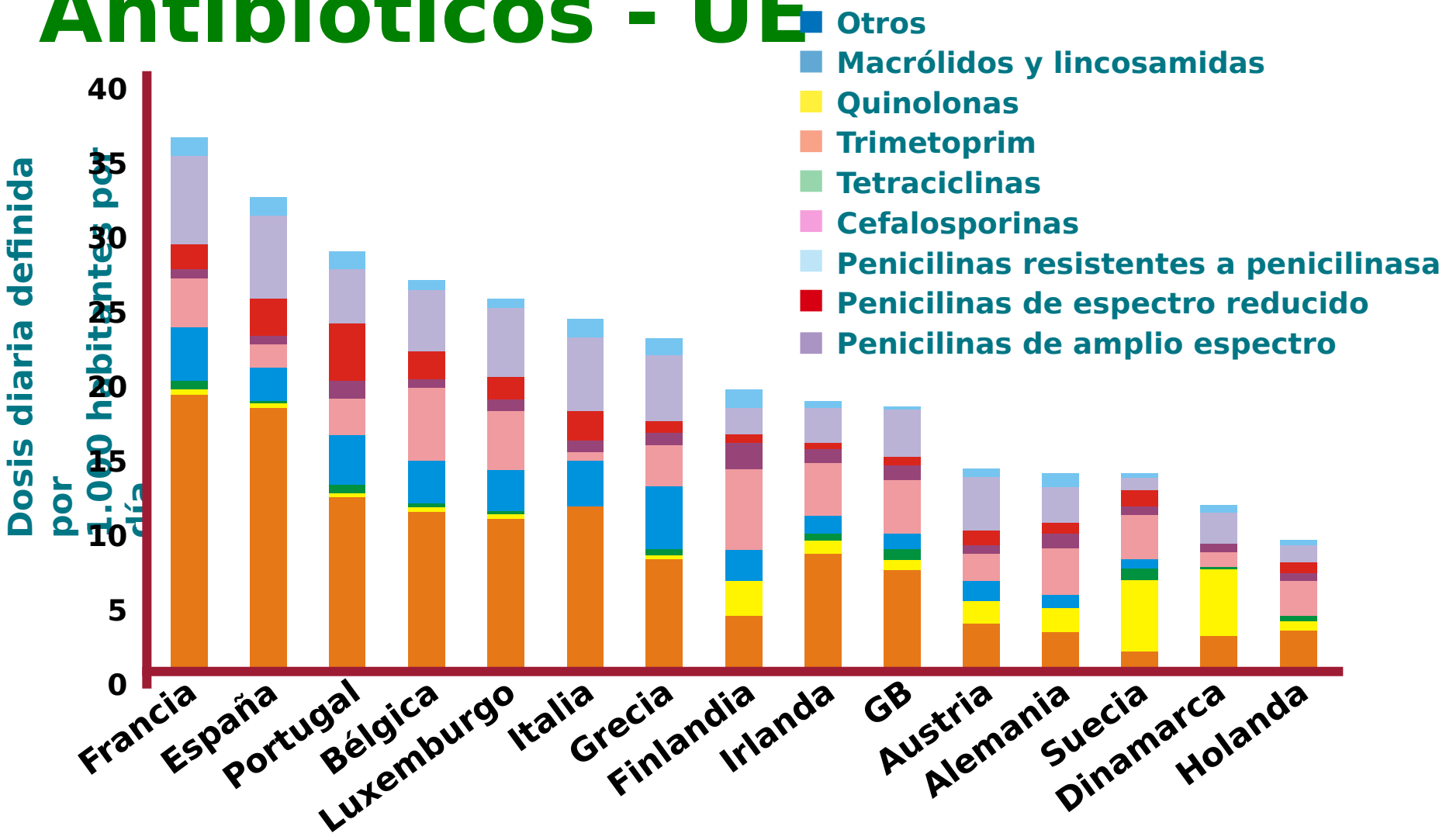
- NO emplear antibióticos

Fokkens W et al. Rhinology. 2007 Suppl 20.

Tratamiento del resfriado común (Rinosinusitis aguda infecciosa)

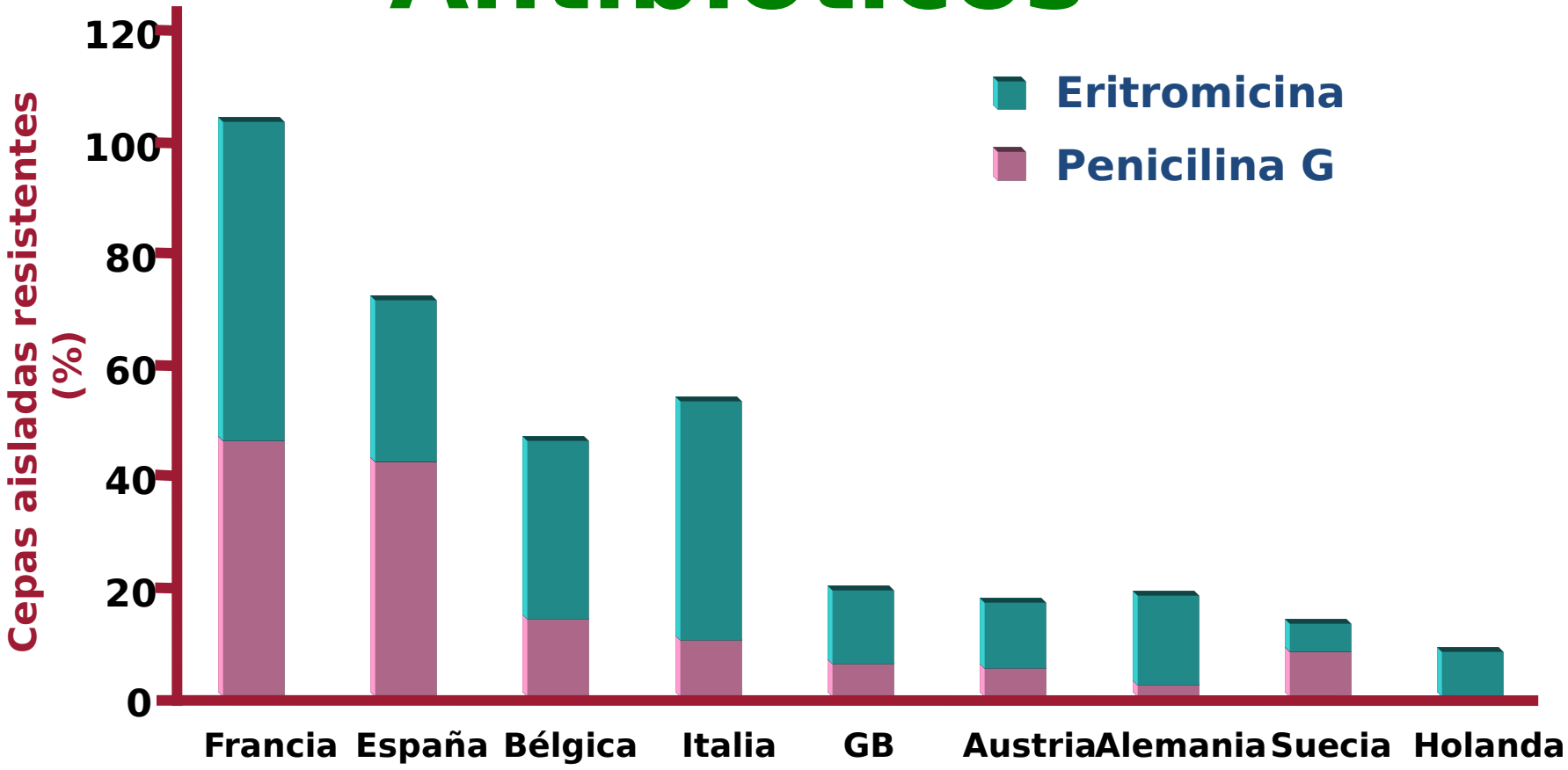
- Descongestionantes nasales (tópicos u orales):
  - Taverner D, Latte J, Draper M. Descongestionantes nasales para el resfriado común. En: *La Cochrane Library plus en español*. Oxford: Update Software
- Antihistamínicos:
  - De Sutter AIM, Lemiengre M, Campbell H, Mackinnon HF. Antihistamínicos para el resfriado común. En: *La Cochrane Library plus en español*. Oxford: Update Software.
- Antibióticos:
  - Arroll B, Kenealy T. Antibióticos para el resfriado común y la rinitis purulenta aguda. En: *La Cochrane Library plus en español*. Oxford: Update Software.

Venta de Antibióticos - UE



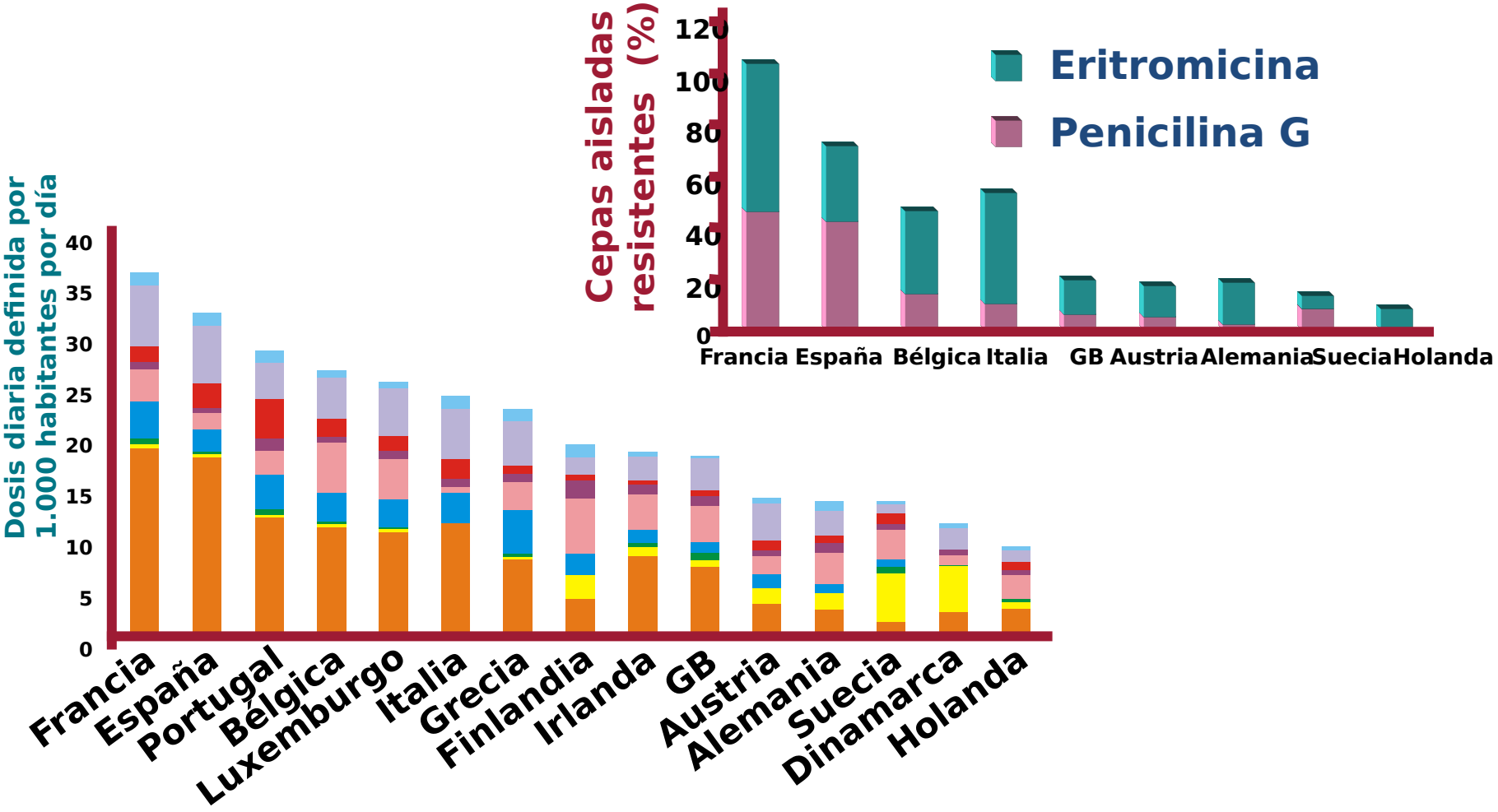
O Cars et al. Lancet 2001, 357: 1851–3.

Resistencia a Antibióticos



D Felmingham et al. J Antimicrob Chemother 2002, 50 (Suppl S1): 25–37

Resistencia a Antibióticos



¿Antibióticos en rinosinusitis aguda?

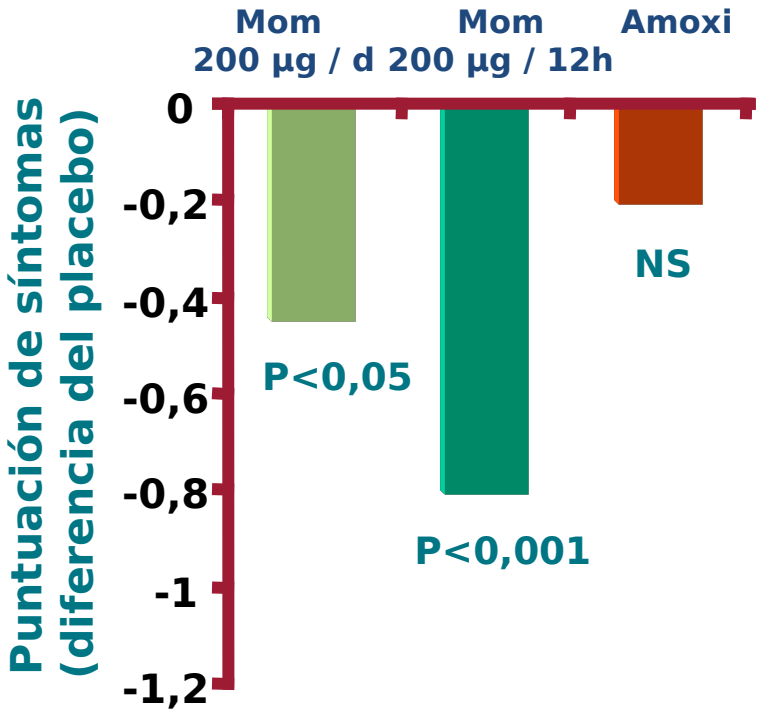
- Young, J., et al., *Antibiotics for adults with clinically diagnosed acute rhinosinusitis: a meta-analysis of individual patient data.* Lancet, 2008:
  - Los ATB no están justificados incluso aunque el paciente aqueje síntomas más de 7-10 días.
  - NNT= 15. (NNT= 8 para rinorrea purulenta faríngea)
  - Los signos y síntomas comunes no identifican a los pacientes cuyo tratamiento estaría justificado

Treating acute rhinosinusitis: Comparing efficacy and safety of mometasone furoate nasal spray, amoxicillin, and placebo

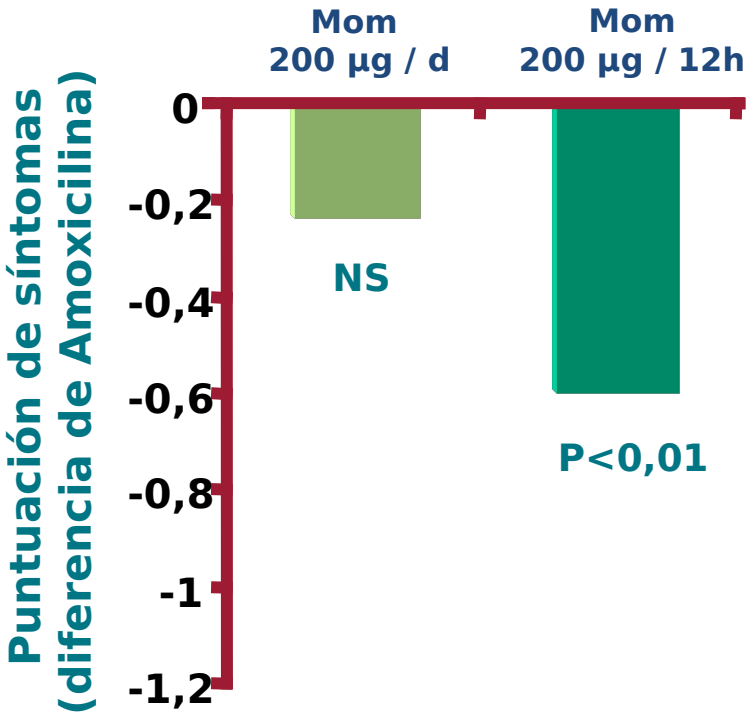
J ALLERGY CLIN IMMUNOL
DECEMBER 2005

Eli O. Meltzer, MD,[a] Claus Bachert, MD, PhD,[b] and Heribert Staudinger, MD[c]
San Diego, Calif, Ghent, Belgium, and Kenilworth, NJ

Tratamiento activo vs placebo



Mometasona vs Amoxicilina



Zalmanovici, A. and J. Yaphe, *Steroids for acute sinusitis.* Cochrane Database Syst Rev, 2007(2)

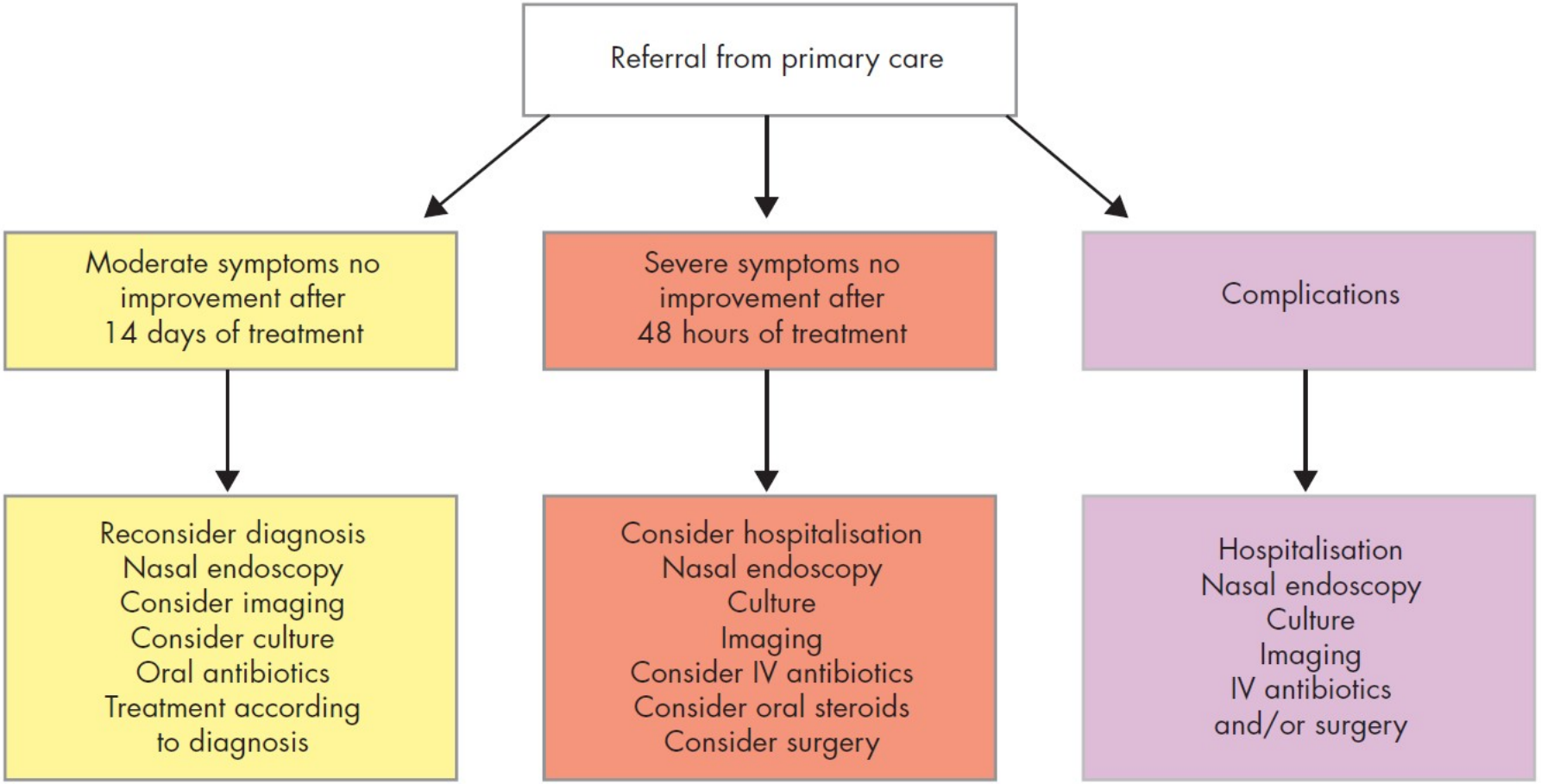
Recomendaciones de antibioterapia en España

Grupo	Antibiótico de elección*	Alternativas*	Duración (días)
Rinosinusitis maxilar leve en el paciente que no ha recibido tratamiento antibiótico en los últimos 3 meses	Tratamiento sintomático o amoxicilina-ácido clavulánico** Cefditoren	Macrólido***	5-7
Rinosinusitis maxilar moderada o leve con tratamiento antibiótico en los últimos 3 meses y sinusitis frontal o esfenoidal	Levofloxacino Moxifloxacino	Amoxicilina-ácido clavulánico**** Cefditoren	7-10
Rinosinusitis grave (o complicada)	Ceftriaxona Cefotaxima Amoxicilina-ácido clavulánico*****	Ertapenem	≥ 10
Sinusitis maxilar de origen dental y sinusitis crónica	Amoxicilina-ácido clavulánico**** Moxifloxacino	Ertapenem	≥ 10

*Consultar las dosis en la tabla 8. **Amoxicilina-ácido clavulánico 875-125 mg/8 h. ***Azitromicina o claritromicina. ****Amoxicilina-clavulánico 2.000-125 mg/12 h (formulación de liberación retardada). *****Amoxicilina-ácido clavulánico 1.000-200 mg/6 h o 2.000-200 mg/8 h.

Tomas, M., et al., *[Diagnosis and treatment of acute rhinosinusitis: second consensus.].* Rev Esp Quimioter, 2008. **21**(1).

Manejo rinosinusitis aguda por especializada.



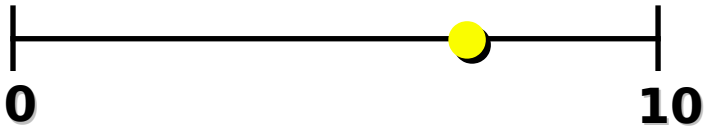
Clasificación Rinosinusitis

1. Duración de la rinosinusitis :

- **aguda:** < 12 semanas
  resolución completa de síntomas
- **crónica:** > 12 semanas
  no resolución completa de síntomas

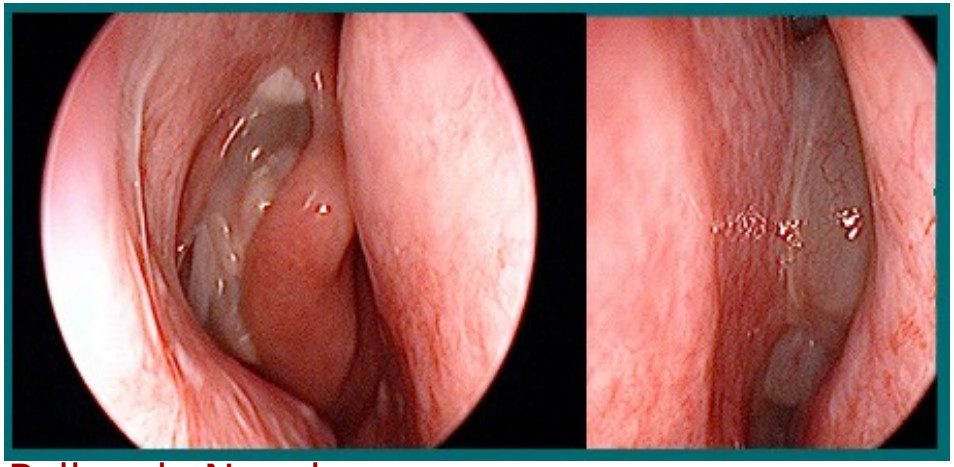
2. Gravedad de la rinosinusitis :

- Leve: Escala visual analógica: 0-3
- Moderada: EVA: 4-7
- Severa: EVA: 7-10

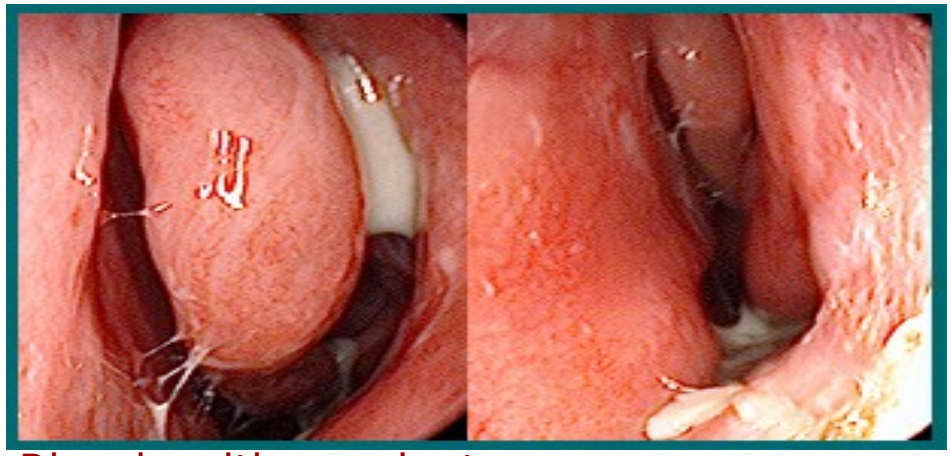


EVA:
basada en el síntoma principal o en el promedio de síntomas principales

El diagnostico de la rinosinusitis crónica es clínico + endoscópico o radiológico



Poliposis Nasal



Rinosinusitis purulenta

EPOS

Endoscopia nasal

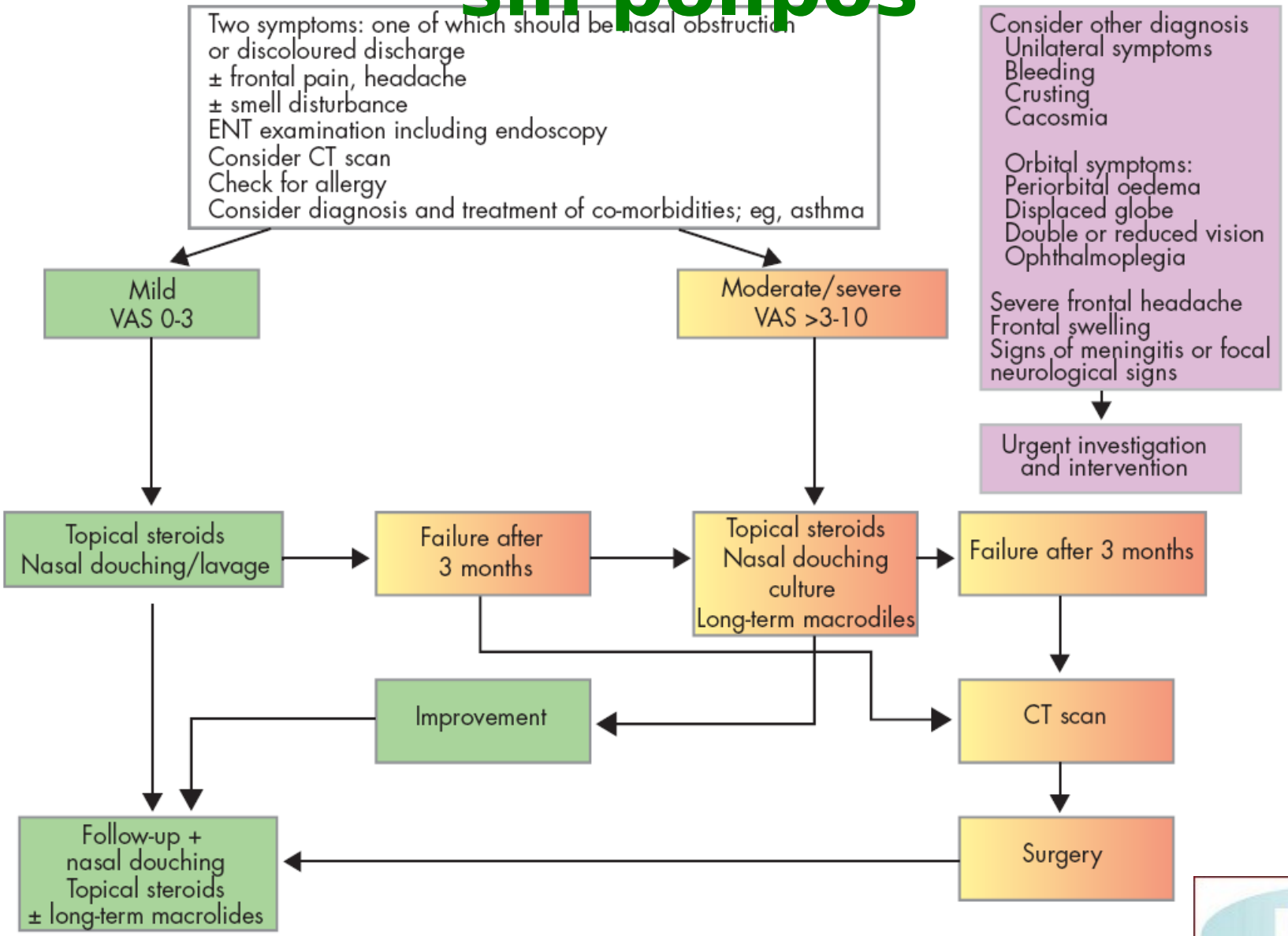
Infecciones en rinosinusitis crónica

- El papel de la infección es controvertido:
  - Bhattacharyya, N., *Bacterial infection in chronic rhinosinusitis: a controlled paired analysis.* Am J Rhinol, 2005. **19**(6)
- La formación de biofilms por las bacterias puede explicar el papel de la infección en la rinosinusitis crónica:
  - Kilty, S.J. and M.Y. Desrosiers, *The role of bacterial biofilms and the pathophysiology of chronic rhinosinusitis.* Curr Allergy Asthma Rep, 2008. **8**(3)

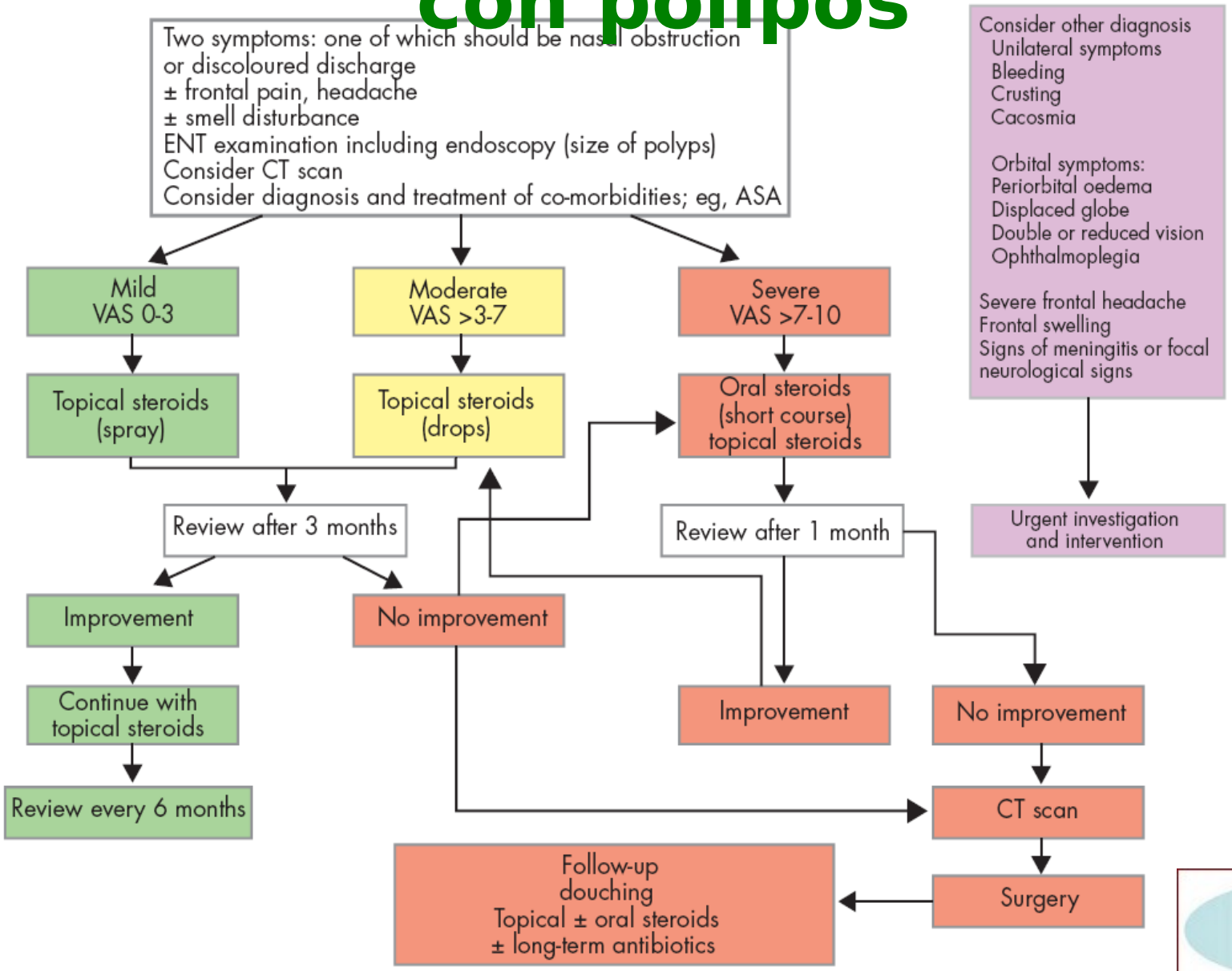
Buen nivel de recomendación para los tratamientos médicos de la RSC

- Corticoides tópicos nasales: 1A
  - Joe, S.A., R. Thambi, and J. Huang, *A systematic review of the use of intranasal steroids in the treatment of chronic rhinosinusitis.* Otolaryngol Head Neck Surg, 2008. **139**(3): p. 340-7.
- Macrólidos en larga duración (3 meses): 1B
  - Wallwork, B., et al., *A double-blind, randomized, placebo-controlled trial of macrolide in the treatment of chronic rhinosinusitis.* Laryngoscope, 2006. **116**(2)
- Lavados nasales con soluciones salinas: 1A
  - Harvey, R., et al., *Nasal saline irrigations for the symptoms of chronic rhinosinusitis.* Cochrane Database Syst Rev, 2007(3)

Esquema de manejo de la RSC sin pólipos



Esquema de manejo de la RSC con pólipos



Complicaciones de las rinosinusitis

- Orbitarias
- Óseas
- Endocraneales

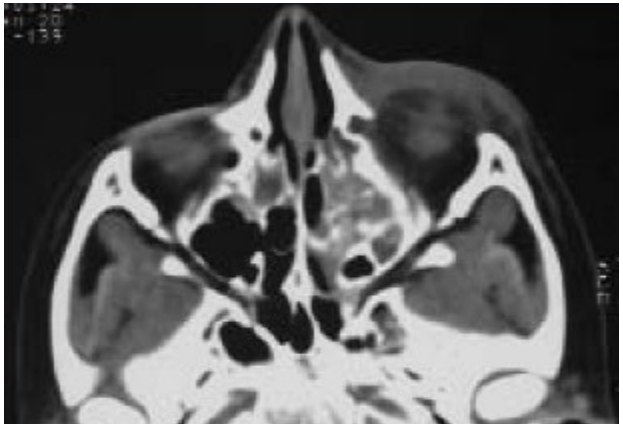
- Alta mortalidad (5-10%)
- Sospecha: Recuento leucocitario ↑

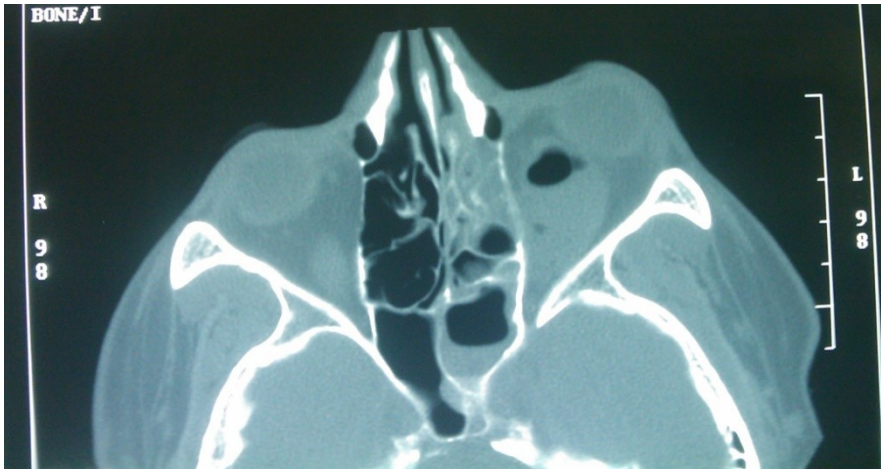
Incidencia de complicaciones

Autor	*País*	*Edad*	*Enfermedad*	*Número de pacientes*	*% total de complicaciones*	*Orbitarias*	*Intracraneales*	*Óseas*	*De tejidos blandos*
Mortimore, 1999 (954)	Sudáfrica	Adultos	Pansinusitis aguda	87	72,4% (63/87)				
Ogunleye, 2001 (955)	Nigeria	Adultos	Pansinusitis aguda/ crónica	90	37% (33/90)	41%	5%		18%
Eufinger, 2001 (956)	Alemania	Adultos/ niños	Pansinusitis aguda	36	75% (27/36)	58% (20+1/36)	11% (3+1/36)	32%	8,4% (3/36)
Kuranov, 2001 (957)	Rusia	Adultos	Rinosinusitis			0,8%	0,01%		
Gallagher, 1998 (958)	EE.UU.	Adultos	Rinosinusitis	176			8,5% (15/176)		
Clayman, 1991 (959)	EE.UU.	Adultos	Rinosinusitis aguda	649			3,7% (24/649)		
Lerner, 1995 (960)	EE.UU.	Niños	Rinosinusitis	443			3% (14/443)		

Fokkens W et al. Rhinology. 2007 Suppl 20.

Celulitis periorbitaria/orbitaria





Complicaciones óseas

- Osteomielitis maxilar
- Osteomielitis frontal

Complicaciones endocraneales

- Absceso epidural o subdural
- Absceso cerebral
- Meningitis
- Cerebritis
- Trombosis del seno cavernoso.

Clínicamente:

- fiebre elevada
- posibilidad de signos meníngeos o neurológicos
- alteración de la conciencia
- cefaleas